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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,077	12/19/2005	Tae-Hwan Kim	PNK-0204	4215
23413 7590 10/28/2008 CANTOR COLBURN, LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER CALEY, MICHAEL H				
ART UNIT 2871		PAPER NUMBER		
NOTIFICATION DATE 10/28/2008		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary

Application No.

10/510,077

Applicant(s)

KIM ET AL.

Examiner

MICHAEL H. CALEY

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2008.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-11 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1 and 3-11 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 30 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date 2/29/08, 7/24/08
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

DETAILED ACTION

Claim Objections

Claims 3 and 4 are objected to because of the following informalities: Dependency on a canceled claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 refers to a “third a-plate”, however, claim 1 upon which claim 4 is dependent introduces only one other a-plate. It is therefore unclear and ambiguous as to how many a-plates are disclosed in the embodiment of claim 4.

Regarding claim 5, where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “a-plate compensation film” in claim 5 is used by the claim to refer to a compensation film

that is biaxial, while the accepted meaning of "a-plate" refers to a uniaxial compensation film.

The term is indefinite because the specification does not clearly redefine the term.

Rockwell International Corporation, for example, is assignee for many of the first U.S. patent documents containing references to an "a-plate". U.S. Patent No. 5,986,733 discloses an a-plate retarder (compensation film) as "a uniaxial birefringent plate with its extraordinary axis...". The claim 5 disclosure of a biaxial a-plate compensation film is therefore in contradiction with the accepted meaning of the term a-plate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3, 6-8, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winker et al. (U.S. Patent No. 5,504,603 “Winker”) in view of Arakawa (U.S. Patent No. 6,812,983).

Regarding claim 1, Winker discloses a liquid crystal display comprising:

a liquid crystal display panel assembly including two panels (Figure 2 elements 238 and 240) and a liquid crystal layer (Figure 2 element 226) interposed between the panels and having first and second outer surfaces opposite each other;

first and second polarizers (Figure 2 elements 222 and 224) on the first and the second surfaces of the panel assembly, respectively;

a first a-plate compensation film (Figure 8; Table I on columns 9-10) inserted between the first polarizer and the first surface of the panel assembly; and

a first hybrid c-plate compensation film (Columns 9-10 Table I, c-plate in combination with o-plate) inserted between the second surface of the panel assembly and the second polarizer or between the first a-plate compensation film and the first polarizer (Figure 8).

Winker fails to disclose the a-plate compensation film as having a reverse wavelength dispersion. Arakawa, however, teaches a reverse wavelength dispersion compensation film (Column 2 lines 38-43) as advantageous to produce a uniform retardation and as constructed using a simple process (Column 1 line 58 - Column 2 line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the a-plate compensation film in the display device disclosed by Winker to

have a reverse wavelength dispersion characteristic. One would have been motivated to form the compensation film to have a reverse-wavelength characteristic to produce a more uniform retardation and to be able to construct the film using a simple process according to the teachings of Arakawa (Column 1 line 58 - Column 2 line 3).

Regarding claim 3, Winker as modified by Arakawa discloses a second a-plate compensation film with reverse wavelength dispersion inserted between the second polarizer and the second surface of the panel assembly and a second hybrid c-plate compensation film, the first and the second hybrid c-plate compensation films inserted between the first a-plate compensation film and the first polarizer and between the second a-plate compensation film and the second polarizer (Columns 9-10, Table I).

Regarding claim 6, Winker discloses the a-plate as uniaxial ($n_x = n_y$) such that it satisfies the proposed condition (Column 8 line 13).

Regarding claim 7, Winker as modified by Arakawa discloses the retardation of the first a-plate compensation film as within the proposed ranges (Arakawa: Figure 6).

Regarding claim 8, Winker discloses the liquid crystal layer as having a twisted nematic configuration in which liquid crystal molecules in the liquid crystal layer are aligned parallel to the panels and spirally twisted from one of the panels to the other (Winker: Figure 2 element 226; Column 3 lines 1-4).

Regarding claim 10, Winker discloses the liquid crystal panel as having a vertically aligned configuration in which liquid crystal molecules in the liquid crystal layer are aligned perpendicular to the panels (Figure 2 between elements 212 and 214).

Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winker in view of Arakawa and in further view of Yang et al. (U.S. Patent No. 5,940,155 “Yang”).

Winker fails to disclose the proposed cell gap and retardation value of the liquid crystal layer. Yang, however, teaches ranges containing the proposed cell gap and retardation ranges (Column 4 lines 35-44).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the liquid crystal layer disclosed by Winker to have the proposed cell gap and retardation. One would have been motivated to provide the proposed cell gap and retardation to optimize the display for viewing at wide viewing angles (Column 4 lines 1-8).

Response to Arguments

Applicant's arguments filed 7/3/08 have been fully considered but they are not persuasive.

Regarding the 112 Rejections of claims 4 and 5, the examiner acknowledges the amendments to the claims, however, they do not overcome the rejections.

Regarding claim 4, the number of a-plate films present in the claimed embodiment remains ambiguous.

Regarding claim 5, limitation of the a-plate film as having biaxiality remains in contradiction with the accepted meaning of the term “a-plate”.

On Pages 7-9 of Remarks, Applicant argues that Winker and Arakawa do not disclose the first a-plate film as claimed.

On Page 8, Applicant argues that Winker discloses an a-plate compensation film having forward wavelength dispersion, however, provides no evidence to support such a statement.

Further, on Page 8 of Remarks, Applicant mischaracterizes the examiner's statements from the previous Office Action by stating that the examiner has cited Arakawa as disclosing an a-plate compensation film with reverse wavelength dispersion. Page 4 of the 3/3/08 Office Action reads:

Arakawa, however, teaches a reverse wavelength dispersion compensation film (Column 2 lines 38-43) as advantageous to produce a uniform retardation and as constructed using a simple process (Column 1 line 58 - Column 2 line 3).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the a-plate compensation film in the display device disclosed by Winker to have a reverse wavelength dispersion characteristic. One would have been motivated to form the compensation film to have a reverse-wavelength characteristic to produce a more uniform retardation and to be able to construct the film using a simple process according to the teachings of Arakawa (Column 1 line 58 - Column 2 line 3).

The examiner has not suggested that Arakawa discloses an a-plate. The examiner does suggest that Arakawa discloses a compensation film with reverse wavelength dispersion and that applying a reverse wavelength dispersion according to the teachings of Arakawa to the compensator disclosed by Winker would be beneficial to produce a more uniform retardation and to simplify the construction process of the retardation film.

The expression $Re(450) < Re(550) < Re(650)$ taught by Arakawa explicitly shows birefringence (retardation) as increasing as wavelength increases. The abstract of Arakawa explains the above expression and, for example, defines $Re(450)$ as the retardation (birefringence) at the wavelength of 450 nm. One skilled in the art would recognize that Page 2 lines 10-13 of Applicant's specification also defines reverse wavelength dispersion as increasing retardation as wavelength increases.

Further regarding arguments on Page 9 of Remarks, the examiner maintains that the references teach the limitations of claims 3-11. The arguments regarding attempts to take Official Notice by the examiner are dismissed as the examiner has not indicated Official Notice as the basis for any of the rejections.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL H. CALEY whose telephone number is (571)272-2286. The examiner can normally be reached on M-F 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 2871

/Michael H. Caley/

Primary Examiner, Art Unit 2871